

# REMARKS

## I. CLAIMS 13 TO 14 AND 16 TO 24

Claims 13 to 14 and 16 to 24 were rejected as obvious under 35 U.S.C. 103 (a) over Satou, et al (US '195 -- referred to as "Satou" herein below), in view of Toumi, et al (US 2004/0166077 A1 - referred to as "Toumi" herein below).

Reconsideration of the subject matter of independent composition claim 13 and of independent method claim 20 is respectfully requested in view of the disclosures in Satou and Toumi. It is respectfully submitted that these two prior art references do not establish a case of *prima facie* obviousness of claims 13 to 14 and 16 to 24.

Satou does disclose and claim a dust-minimizing dye-containing granulate with a coating that comprises a monosaccharide, an oligosaccharide or hydroxypropyl cellulose (claim 1). The dye compound is mixed with about 5 to 10 wt. % of a binder in a wet or dry granulation process to form a dye-containing particulate. The binder may include starch, dextrin, sodium alginate, gelatin, cellulose derivatives, PVP, or an oligosaccharide (column 1, line 66, to column 2, line 29, of Satou). After granulating the dye compound together with a binder to form a granulated dye composition it is **dried at 50 to 130°C** (column 2, line 8, of Satou). Then according to Satou the dye granules or particles are coated with a coating agent in a spraying process in which a coating solution is sprayed while blowing hot air **at 40°C to 100°C**. (column 2, lines 50 to 52). The coating of course suppresses the formation of dust. The coating compounds may be the same as the binder compounds (column 2, lines 57 to 63, of Satou).

However the several exemplary dye-containing granulates in columns 3 to 6 only contain direct dye compounds. Satou does not mention oxidation dye precursor compounds anywhere in the entire specification (column 1, lines 60 to 65). Satou's examples in columns 3 to 6 are limited to dust-minimizing dye-containing granulates, which contain direct dyes, which are **not** sensitive to oxidizing agents or air oxygen, especially at the high temperatures for drying disclosed in column 2 of Satou.

Thus Satou does **not** put the inventions claimed in applicants' composition claim 13 and in method claim 20 "in the hands of the public", because oxidation dye precursors are sensitive to the presence of a chemical oxidant or air, especially at the high temperatures disclosed by Satou for drying the particulate in column 2. In other words, one skilled in the cosmetic arts would expect that some oxidation dye precursors would be destroyed or at least significantly degraded by the methods of preparing the "non-dustable" dye-containing particulate described in column 2 of Satou.

The foregoing argument is supported by the fact that the disclosure of Satou does **not** mention a single oxidation dye precursor compound or oxidation dye precursor (donors and acceptors).

Furthermore the maximum temperatures for operating the granulating machine and for drying the particulate disclosed on page 2 of the applicants' specification are generally much lower than the temperatures proposed for drying and for operating the granulator in the process described in column 2 of Satou. Also oxidation reactions can be sensitive to differences in the temperature of the

reactants because of the exponential relationship between temperature and reaction rate.

In other words, Satou does not disclose the necessary details of a successful process to produce a “dust-minimizing” coated or encapsulated dye-containing particulate or granulate, which contains oxidation dye precursor compounds. Satou has only solved the problem of minimizing dust formation for the direct dye containing particulates, not the oxidation dye precursor compounds, which are more sensitive to the presence of air oxygen and other oxidizing agents. US judicial decisions have long held that the prior art must enable one skilled in the art to make and use the invention in order to be able to establish a case of *prima facie* obviousness under 35 U.S.C. 103 (a). For example, the Federal Circuit Court of Appeals has said:

“In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make and use the apparatus or method.” *Beckman Instruments, Inc. v. LKB Produkter AB*, 13 USPQ 2<sup>nd</sup> 1301 (Fed Cir 1989).

Since the oxidation dye precursors react with oxidants, such as air oxygen, especially at high temperatures, Satou does not explain or suggest the necessary steps that must be taken to produce a “dust-minimizing” coated or encapsulated dye-containing particulate or granulate, which contains oxidation dye precursor compounds. These process steps are described in detail on pages 1 and 2 of applicants’ specification and differ from those disclosed in column 2 of Satou. Maximum temperatures for applicants’ process steps shown in figs. 1 and 2 are 50 to 60°C, whereas maximum temperatures of Satou are over 100°C.

One skilled in the cosmetic arts would not have a reasonable expectation

that the process of Satou described in column 2 of their US Patent would be successful (as required by M.P.E.P. 2143.02 to establish a case of *prima facie* obviousness under 35 U.S.C. 103) for producing a “dust-minimizing” dye-containing particulate, which contains oxidation precursor dyes. Contrary to a reasonable expectation of success, there was a substantial expectation at the time the present invention was made that the detailed process for making the particulate described in column 2 of US ‘195 (Satou) would **not** be successful to produce a non-dustable particulate containing oxidation dye precursors. This substantial expectation of lack of success would induce the manufacturer to perform experimental work to find a process that can produce the non-dustable particulate or granulate containing the sensitive oxidation dye precursors, which applicants have done and which should be rewarded with a patent.

Turning now to Toumi, it is respectfully submitted that one skilled in the cosmetic arts would not combine the disclosures of Toumi with those of Satou to arrive at the subject matter of independent composition claim 13 and independent process claim 20.

First, Toumi does not disclose the problem of dust generation by particulates comprising dyes of any kind and thus does not suggest any solutions to that problem for the oxygen-sensitive oxidation dye precursor compounds.

The problem that the invention of Toumi solves is disclosed in paragraphs [0006] to [0008]. Some dye-containing compositions according to Toumi contain oxidation dye precursors and also direct dyes to modify the color shades produced by the oxidation dye precursors [0006]. According to [0006] it is

necessary to include a reducing agent with the oxidation dye precursors because they are sensitive to oxygen or oxidizing environments (see [0007] of Toumi) so that they degrade during storage and transport prior to use. However the reducing agent can degrade the direct dyes.

Toumi solves this problem by enclosing or coating the direct dye (aromatic dye) so that it is protected from chemical interaction with the reducing agent (claim 19, lines 5 to 8; claim 25, lines 3 to 5) during storage and transport prior to use.

Toumi does disclose including a “cosmetically active principle” (claim 1) which can be an oxidation dye precursor (claim 16), in a polymer matrix (claim 3) comprising a special polymer with aryl groups and covalent bonds that can be cleaved with a special reagent, such as hydrogen peroxide (claim 12), to release the “cosmetically active principle”. Toumi also discloses in [0056] either incorporating the aromatic compound comprising the active principle in a polymer matrix or coating or enclosing the aromatic compound. Although Toumi provide detailed general methods for incorporating the aromatic compound in the polymer matrix ([0056] to [0084]), they do **not** disclose or suggest a general procedure for coating or encapsulating a particulate comprising an aromatic dye compound that is sensitive to environmental conditions or oxygen. Such processes for coating or encapsulating must be performed under conditions that protect the oxidation dye precursor or aromatic dye compound from degradation by oxidizing agents or atmospheric oxygen.

The examples on pages 5 and 6 of Toumi do **not** disclose any further

details regarding processes for enclosing or coating dye-containing particulates that comprise oxidation dye precursors that are sensitive to oxidizing agents in the environment and air oxygen. Examples 1 and 2 and page 6, paragraph [0113] do **not** teach or suggest a coated or encapsulated dye-containing pellet or granulate that contains oxidation dye precursors. The paragraph [0113] does state that the oxidation dye precursors (bases and couplers) could be included in compartment or component A of the kit, **but does not disclose or suggest that they should be encapsulated or coated or included** in the matrix comprising the synthetic polymer with aryl groups of US '077. Paragraph [0113] of Toumi **only** teaches that oxidation dye precursors can be included in component A of paragraph [0105], **not** that they too can or should be encapsulated in the polymer matrix.

In fact, Toumi **teaches against encapsulating or coating** the oxidation dye precursors in example 1 because the direct dyes are encapsulated in the polymer matrix to allow time for the oxidation dye precursors to react with the preferred hydrogen peroxide oxidizing agent so that the oxidative dyeing process begins prior to releasing the entire amount of the direct dye from the synthetic polymer matrix, since it would otherwise react with the stabilizing (reducing) agent that is present at the start of the oxidative dyeing process (see paragraph [0007] and [0008] and [0113] of US '077). Also Toumi teaches washing a coated dye particulate comprising a binder or polymer matrix and a direct dye after it is prepared to remove any dye molecules that are on the surface of the particles in [0097]. This latter step is to avoid any contact of the reducing agent used to

stabilize the oxidation dye precursor compounds included in the preparation with the direct dye.

Clearly the disclosures of Toumi would **not** suggest the encapsulation or coating of a dye-containing particulate, which comprises oxidation dye precursors, to one skilled in the cosmetic arts or would not motive one skilled in the art to do that.

The example disclosed in paragraph [0105] of Toumi only discloses a two-component kit that has a component A that includes an encapsulated or coated direct dye-containing particulate or granulate, a base, a reducing agent -- namely sodium metabisulfate, and water and a component B that includes hydrogen peroxide. The hydrogen peroxide is necessary to react with the synthetic polymer matrix to release the direct dye. Without the hydrogen peroxide the direct dye would not be released because the encapsulation matrix is not water-soluble! Thus example 2 of US '077 (Toumi) is for the purpose of demonstrating the release of the direct dye from the synthetic polymer matrix (see the results in [0110] - [0112]). Paragraph [0113] explains that oxidation dye compounds could be included in component A of example 2 for permanent dyeing of the keratin fibers **but does not disclose or suggest that they should be encapsulated.**

In addition note that the process for making the encapsulated azo dye particulate in example 1 is performed at a high temperature of 130°C, which is more than twice as high as the maximum allowed temperatures in the detailed process described on page 2 of applicants' specification. Temperatures for the steps of the process must be kept comparatively low for a successful

encapsulation of the oxidation sensitive oxidation dye precursors of the claimed invention.

In addition, it is respectfully submitted that the disclosures of Satou and Toumi are not combinable under 35 U.S.C. 103 (a) to reject a claimed invention for any purpose.

The particular encapsulation coating of Toumi is limited to a synthetic polymer that contains aryl groups and covalent bonds that can be cleaved by a reagent R, e.g.  $H_2O_2$ , but which are insoluble in water (see [0022] and [0016]-[0017] of Toumi). According to Satou **none** of the encapsulation or binder materials contain aryl groups and they are water-soluble (see the last paragraph in column 2, column 1, line 55, and claim 1 of Satou). Thus these two prior art references, Satou and Toumi, **teach the opposite from one another regarding the water solubility** and other properties of coating or encapsulating material for the particulate. Satou teaches only binder materials that are water-soluble and that do not include aryl groups, while Toumi requires water-insoluble coating or encapsulating polymers containing aryl groups.

When combining the references to provide a process for encapsulating or coating a dye particulate containing oxidation dye precursor compounds how would one skilled in the art know which type of coating or encapsulating material should be used in the case of these oxidation-sensitive dye materials from these two references?

Prior art references that **teach the opposite from each other** regarding an essential feature like the water solubility or chemical structure of the coating



material cannot not be combined under 35 U.S.C. 103 (a) to establish a case of *prima facie* obviousness of the claimed invention. See M.P.E.P. 2145. X. and also the Federal Circuit Court of Appeals has said:

"In determining whether such a suggestion [of obviousness] can fairly be gleaned from the prior art...It is indeed pertinent that these references teach against the present invention. Evidence that supports, rather than negates, patentability must be fairly considered." ***In re Dow Chemical Co.***, 837 F.2d 469,473, 5 U.S.P.Q.2d 1529, 1532 (Fed.Cir. 1988)

Thus if one is presented with both references without any guidance from the applicants' disclosure one skilled in the cosmetic arts would not have any guidance regarding a choice between the water-insoluble polymer compounds of Toumi or the water-soluble coating materials of Satou. However it is impermissible to use the applicants' disclosure to provide suggestions, which are missing from the prior art, to formulate a rationale for a rejection under 35 U.S.C. 103.

In summary, Toumi does not disclose or suggest encapsulation or coating of a particulate or granulate containing oxidation dye precursor compounds, but only discloses the mixing of encapsulated or coated granulates containing non-oxidative (direct) dye compounds with non-coated or non-encapsulated granulates containing oxidation dye precursor compounds (see page 5, [0093] of Toumi). The motivation of Toumi to encapsulate granulates containing direct dye compounds is to protect them from the reducing agents used as stabilizers for the oxidation dye precursor compounds. There is no motivation provided by Toumi to encapsulate the oxidation dye precursor compounds because Toumi is

not concerned with the problem of dust formation from dye-containing particulates.

In addition, Toumi, like Satou, does not put the claimed inventions in the “hand of the public” because Toumi does not provide a general description of a process of encapsulating or coating a particulate that contains oxygen-sensitive oxidation dye precursor compounds. Also Toumi discloses **no examples** of a coated or encapsulated particulate that contains oxidation dye precursor compounds, which would provide some guidance regarding the handling of the more sensitive dye compounds.

For the foregoing reasons it is respectfully submitted that the rejection of claims 13 to 14 and 16 to 24 as obvious under 35 U.S.C. 103 (a) over Satou, et al (US ‘195), in view of Toumi, et al (US 2004/0166077 A1), should be withdrawn.

## II. CLAIM 15

Claim 15 was rejected as obvious under 35 U.S.C. 103 (a) over Satou, et al, in view of Toumi, et al, and further in view of Miczewski, et al.

Miczewski is cited for disclosing some of the particular direct dye compounds disclosed in claim 15, namely Basic Brown 17. However Miczewski teaches nothing more for the applicants’ claimed inventions than an encyclopedia that lists direct dye compounds.

Miczewski discloses liquid dye compositions containing, in polar solvent, association structures, which contain at least one water-soluble or water-dispersible dye compound. See [0015]. The purpose of these liquid dye

compositions of is to touch up dyed hair in between dyeing with the more permanent oxidative dye compositions. See [0005] and [0006]. The dye compounds including in these liquid dye compositions are all direct dye compounds of certain types. See [0026]. The more permanent oxidation dye compounds are not included in the compositions of Miczewski.

Also the examples of Miczewski do not describe the details of the oxidation dye compositions that are used to permanently dye the hair, which are not the subject of their invention. Only liquid touch-up compositions are described.

Thus Miczewski does not disclose or suggest anything regarding methods of suppressing dust formation in a dye-containing solid particulate in which the solid particulate contains oxygen-sensitive oxidation dye precursor compounds. Miczewski does not suggest the modifications of the disclosures of Satou that are lacking in Toumi that are necessary to arrive at the invention claimed in applicants' independent claims 13 and 20.

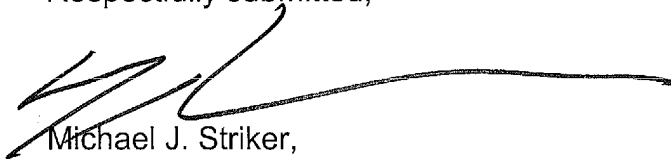
Clearly Miczewski does not disclose the details of a method of encapsulating or coating a solid particulate comprising oxygen-sensitive oxidation dye precursor to suppress dust formation and does not suggest encapsulating or coating such a particulate for any reason.

For the foregoing reasons it is respectfully submitted that the rejection of claim 15 as obvious under 35 U.S.C. 103 (a) over Satou, et al (US '195), in view of Toumi, et al (US 2004/0166077 A1), and further in view of Miczewski, et al, should be withdrawn.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Michael J. Striker', with a long horizontal flourish extending to the right.

Michael J. Striker,  
Attorney for the Applicants

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